

# Adrian Velazquez-Martinez

(401)-346-6378 | [adrian\\_velazquez-martinez@brown.edu](mailto:adrian_velazquez-martinez@brown.edu) | [linkedin.com/in/adrian-velazquez-martinez](https://www.linkedin.com/in/adrian-velazquez-martinez) | Providence, RI

## EDUCATION

**Brown University**, Providence, RI May 2026  
B.Sc. Electrical Engineering & B.A. Applied Mathematics GPA 3.70/4.0  
**Awards:** Hispanic Scholarship Fund (HSF) STEM Scholar, LEDA Scholar & Career Fellow, IB Bilingual Alumni

## TECHNICAL SKILLS

**Signals & Systems:** Fourier analysis, LTI systems, convolution, sampling/aliasing, z-transform  
**Digital Signal Processing (DSP):** FIR/IIR basics, FFT/Welch PSD, AM modulation & envelope detection  
**RF Fundamentals:** Transmission lines, S-parameters/Smith chart, matching concepts, basic network analysis  
**Frameworks:** Python (Pytorch & Numpy), MATLAB, C++, LTSpice, SQL, MongoDB, Figma, R, Jenkins, Git, Docker, LaTeX  
**Proficiencies:** Arduino, CAD, CMOS, VHDL, SimSmith, data analytics, product design, 3D printing, laser cutting  
**Lab Experience:** Digital oscilloscopes, digital multimeters, vector network analyzers, function generators, signal sources

## WORK EXPERIENCE

**Honeywell Aerospace (Phoenix, AZ)** May 2025 – August 2025  
*Electrical Engineer Intern*

- Led timing and signal-integrity checks with HyperLynx and TimingDesigner on avionics boards focused within MRAM and analog reset functionality, including unit testing.
- Simulated reset-circuit behavior in LTspice, prepared artifacts for demonstrations, and communicated effectively.

**Hewlett-Packard Inc. – HP (Houston, TX)** May 2024 – August 2024  
*AI & Program Management Intern*

- Co-created and streamlines processes to implement AI for project managers using Agile and scrum methodologies, resulting in a 20% increase in productivity.
- Engaged with interns, mentors, and professionals across various fields such as software engineering, data analysis, and computer architecture, resulting in saving 10 million dollars a year through streamline process.

**NASA & Brown University's Zenit Labs (Providence, RI)** January 2024 – August 2025  
*Aerospace Researcher*

- Designed a bubble emulsions system to research two-phase flows & non-Newtonian fluid mechanics by using Arduinos, servos, and particle image velocimetry to record turbulence, bubble behavior, and speed of sound 50% faster.
- Developed MATLAB signal-processing pipeline for underwater microphone/hydrophone recordings (band-pass filtering, windowing, and cross-correlation) to improve SNR and sharpen speed-of-sound measurement in water through data processing.

**Brown University School of Engineering (Providence, RI)** August 2024 – Present  
*Head Teaching Assistant for ENGN30: Introduction to Engineering (Wireless Module)*

- Spearhead interactive lab sessions for 120 undergraduate students, develop modules on how antennas communicate and operate, grade 300+ assignments, and provide technical support.
- Mentor and coordinate 7 teaching assistants on how to guide undergraduate students, increasing academic performance.

**Brown University (Providence, RI)** August 2024 – Present  
*Community Coordinator*

- Manage and supported a community of 160 residents, fostering connections through organized talks, activities, and individualized academic and professional advising.
- Collaborated with three fellow coordinators to organize community-building events, directly resulting in positive feedback from most student residents, solidifying a stronger campus environment.

## PROJECTS

**Van Wickle Wafers Semiconductor Devices** Feb 2025 – May 2025  
• Co-founded and led the fabrication of 324 p-n diodes, executing photolithography, dopant drive-in, metallization, and RCA cleaning; achieved 100 % yield with  $\geq 10^3$  rectification ratio at  $\pm 1.2$  V and forward currents of 2–8.3 mA at 1.2 V.

**Electromagnetic Simulations Deep Learning for Engineers (Grad level)** January 2025 – May 2025  
• In a graduate-level Deep Learning for Engineers course, implemented SympNet, PNN, and PINN architectures in PyTorch to simulate electromagnetic-particle trajectories on a 1,200-point dataset, achieving more than 85% prediction accuracy.

**FPGA PONG! Digital Electronics System Design** January 2024 – May 2024  
• Developed an FPGA-based PONG game using Verilog, focusing on design integration and preliminary verification through testbenches. Wrote structured test scenarios and basic coverage checks to confirm correct paddle movement, collision detection, and scoring logic to improve optimization by 20%.

## LEADERSHIP & COMMUNITY DEVELOPMENT

**Brown Space Engineering** | *Attitude Determination and Control Systems* January 2024 – Present  
• Implement both high and low radio frequency communication protocols for CubeSat satellite alongside 40 students.  
• Conduct research in UHF and S-Band to construct a ground communication station and onboard antenna with custom PCB.